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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,391	01/07/2002	Stefan Schabel	Q67746	4486

7590 09/15/2005

SUGHRUE MION, PLLC
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Washington, DC 20037-3213

EXAMINER

DSOUZA, ADOLF

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 09/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/036,391

Applicant(s)

SCHABEL ET AL.

Examiner

Adolf DSouza

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/07/2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 01/07/2002 4/8/02
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Drawings

The drawings are objected to because the symbol that is used for the NRZ to RZ converter 4 is the same as that for the multipliers 5,6,9,10 (see Figs. 2 and 3). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanimoto (US 4,339,824) in view of Haykin (Communication Systems, Simon Haykin, 3rd edition, 1994).

Regarding claim 1, Tanimoto discloses a timing recovery system comprising a transmission link feeding process signals to a discriminator simultaneously via two separate paths, further comprising a wideband bandpass filter (column 3, lines 33-61; column 4, lines 12 – 17); an amplifier limiting the amplitude of the output voltage of the same limiting amplifier via which the timing signals are brought to the required constant level, is connected downstream of the bandpass filter (column 3, lines 61-65).

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Tanimoto discloses a system comprising of a selectable wideband or narrowband filter (column 3, lines 55-67) but is silent about the specific details of the bandwidth of the bandpass filter being in the range of 0.2% to 0.4%.

In the same field of endeavor, Haykin emphasis the time-bandwidth relationship of a signal, wherein the range of 0.2% to 0.4% can be easily achieved by adjusting the wideband filter for a given bandpass range (Chapter 2, page 50).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to use the bandpass filter as disclosed by Haykin in the system of Tanimoto because the system of Haykin provides Tanimoto with a burst mode operation resulting in a efficient transmission system.

Claim 2 is similarly analyzed as claim 1 with the limitation that the bandwidth be 0.3% of the bit timing.

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanimoto (US 4,339,824) in view of Haykin (Communication Systems, Simon Haykin, 3rd edition, 1994) and further in view of Malik (US 5,577,056).

Regarding claim 3, Tanimoto discloses all limitations of claim 3 as analyzed in claim 1 above, except Tanimoto is silent about a circuit with two paths, a low pass filter and shifting local timing by 90 degrees.

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In the same field of endeavor, however, Malik discloses a system for clock recovery wherein the signal is split into two parallel paths comprising of lowpass filters (column 4, lines 34-45). The outputs of the filters fed to DSP chips from where the timing information is calculated (column 4, lines 65 – column 5, line 10).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to use two parallel paths as taught by Malik in the system of Tanimoto because having two separate paths would result in a more robust timing recovery system.

Regarding claim 4, Tanimoto discloses all limitations of claim 4 as analyzed in claim 3 above, except Tanimoto is silent about a sample-and-hold element being inserted in each case in the direction of transmission prior to the low-pass filters.

In the same field of endeavor, however, Malik discloses a system wherein a sample-and-hold is inserted in each path.

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to use the sample-and-hold as taught by Malik in the system of Tanimoto because a system that processes signals digitally would be more reliable than an analog system.

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Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanimoto (US 4,339,824) in view Haykin (Communication Systems, Simon Haykin, 3rd edition, 1994) and further in view of Pachynski (US 4,025,720).

Regarding claim 5, Tanimoto discloses all limitations of claim 5 except how the signal is converted from NRZ to RZ code.

In the same field of endeavor, Pachynski discloses a method to convert a NRZ signal to a RZ signal (column 5, lines 27-34; column 7, lines 52-65).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to use NRZ to RZ converter disclosed by Pachynski in the system disclosed by Tanimoto because it would make the timing recovery process easier.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanimoto (US 4,339,824) in view of Kim (EP 0854379A2).

Regarding claim 6, Tanimoto discloses all limitations of claim 6 as analyzed in claim 1 except Tanimoto is silent about the signal being an optical signal.

In the same field of endeavor, Kim discloses a method to recover the clock in an optical system using a bandpass filter (column 1, line 24 – 38; column 8, lines 48-55).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to use the optical system disclosed by Kim in the system of Tanimoto because an optical system would result in greater bandwidth efficiency.

Other Prior Art Cited

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents cited to further show the state of the art with respect to clock recovery in general:

US Patent No. 4419759 to Poklemba

US Patent No. 4849991 to Hamilton et al.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adolf DSouza whose telephone number is (571)-272-1043. The examiner can normally be reached on Monday – Friday (730 – 430 EST).

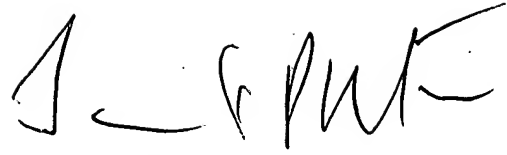
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on (571)-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

~~AD~~

AD

Patent Examiner



JAY K. PATEL
SUPERVISORY PATENT EXAMINER